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GRAZING MANAGEMENT PAYS ON PERENNIAL GRASS RANGE DURING DROUGHT

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Livestock producers in northern California experienced the effects of a second successive drought year in 1960. At the Harvey Valley demonstration grazing allotment on the Lassen National Forest, where the long-time annual average is 18.0 inches, precipitation in 1960 was only 12.5 inches. Only 2.00 inches of this fell during the growing season, May through September. This relatively low rainfall followed severe drought in 1959 when only 9.6 inches of precipitation were recorded at Harvey Valley. 1/

The accumulative effects of these two years with poor growing conditions were felt by ranchers using summer ranges throughout northern California. Low forage production and, as a result, a shortened grazing season and reduced livestock weight gains, were particularly critical on rangelands which were in poor condition at the beginning of the drought period. But on the Harvey Valley allotment, rest-rotation grazing permitted nearly normal returns from the range.

1/ Woolfolk, E. J. "Rest-Rotation Management Minimizes Effects of Drought." Pacific Southwest Forest and Range Expt. Sta., Berkeley, Calif., Res. Note 144, March 1960.

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Grazing Management at Harvey Valley

Rest-rotation grazing management, as applied at Harvey Valley, provides that each of five range units in the allotment be deferred from grazing two full seasons and two half seasons over a five-year period. This system, which has been in operation on the entire allotment since 1954, allows for an improvement in range conditions and a resulting increase in forage production. Since two of the five units are rested each year, it also provides insurance in the form of forage which can be used, if necessary, to meet emergencies such as the drought condition experienced in 1959 and 1960.

Length of Grazing Season

Rest-rotation grazing management allowed a normal 120-day grazing season on the Harvey Valley allotment in 1960. Forage production was below normal: meadows and open grasslands produced an average of 1,600 pounds of vegetation per acre; they produce about 3,000 pounds in average rainfall years. Because of the low production, all five units had to be grazed to provide feed for the permitted 515 head of beef cattle. Utilization on the two units scheduled for rest during 1960, however, was fairly light. Estimated utilization in these areas, based on volume of forage removed, was only 30 percent. For the allotment as a whole, utilization was about 45 percent.

The story was different on several adjacent allotments, where the method of grazing is season-long. Cattlemen voluntarily removed their livestock two to three weeks before the end of the permitted grazing season because of a lack of forage. Routine utilization checks on these allotments indicated that 70 to 75 percent of the available forage was utilized.

On the Harvey Valley allotment, improved range condition due to the system of management permitted a full season's grazing without excessive utilization.

Cattle Weight Gains

Cattle weight gains at Harvey Valley were also much like those in more favorable forage years. Calves averaged daily gains of 1.15 pounds per head; the 4-year average is 1.48 pounds per head. Surprisingly, wet cows gained 0.80 pounds per head per day during the grazing season. This was 0.20 pounds higher than the average for previous years.

As in most years, the rate of gain was higher during the first half of the grazing season, from about May 20 to July 20. Calves gained 1.65 pounds per head per day for this period, and 0.60 pounds during the latter half of the season.

Based on calf gains of 0.60 pounds per head per day during the latter part of the grazing season, an additional three weeks of grazing at Harvey Valley produced about 12.5 pounds of extra beef per calf grazed. Valued at $0.20 per pound, this was worth an extra $2.50 per head for some 235 calves sold off the allotment. Season-long gains produced an average of 135 pounds of beef per calf at Harvey Valley in spite of drought conditions.